THE PLOUGH BOY.

BY S. SOUTHWICK.

"He tnat observeth the wind shall not sow, and he thatregardeth the clouds shall not reap."—BUT—"He that tilleth his land shall have plenty of bread."—*Ecclesiastes.*

Vol. IV. ALBANY, TUESDAY, SEPTEMBER 10, 1822. No. 15.

From the American Farmer.

VIRGINIA HUSBANDRY.

Wier's Cave.

On reading the subjoined description of one of the most stupendous natural curiosities to be found in this or any other country—though it may afford some amusement, the question will still recur—what is the connexion between the *Caves* and the *Agriculture* of Virginia?—very true! It would require a lively imagination to discern the connexion, but then I have adopted a certain *heading* for the desultory observations I had to make on what particuliarly attracted my notice in passing through an interesting portion of the State, at a pace, and in a state of health that did not admit of diffuse inquiry and methodical reflection—and so I make my heading like the bed of Procrustes, unaltered in figure or dimensions, and every subject must be made to *fit it.*

The passing traveller, on the road to Staunton, would be unfortunate, if he were not reminded that it brings him in the vicinity of Wier's Cave, where

"Rocks reared on rocks, in huge disjointed piles,
"Form the tall turrets and the lengthened ailes;
"Broad ponderous piers sustain the roof, and wide,
"Branch the vast rain-bow ribs from side to side.
"While from above descends in milky streams,
"One scanty pencil of illusive beams,
"Suspended crags and gaping gulphs illumes,
"And gilds the horrors of the deepened glooms."

From the house of Mr. J***** W*******, where I rested some days, and was recruited by the kindest and most grateful attentions, I went to explore this wonderful Cavern—for since the discovery of Wier's—Madison's cave has fallen into comparative insignificance. I find no necessity to describe it, since it has been by a much abler pen, so happily done, in the following account, by an iminent citizen of North Carolina.

Edit. Am. Farmer.

WIER'S CAVE.

Description of Wier's Cave, in Augusta county, Virginia, in a letter from General Calvin Jones *to Mr.* ******, *in North Carolina—communicated to the Editor of the Raleigh (North Carolina) Star.*

Botetourt Co. (Va.) March 17, 1815.

My Dear Sir,

Detained here (for this day at least) by a rain, I will occupy a part of the leisure it allows by an endeavour to make you participate in some degree in the pleasures my tour has afforded me; and as I know the interest you take in the rude but bold workmanship of nature, I will give you an account, though a brief and imperfect one, of a place very little known, where she has made some of her happiest efforts.

Since my last from Winchester. I have visited the Caves in Augusta, and the Natural bridge in the county to which it has given name. The former exceeded, but the latter did not equal my expectations. I saw the Bridge, I presume, under circumstances that were not favourable to the emotions of the sublime. I had a little before seen the grand, romantic scenery at, and around Harper's Ferry, where the Potomac passes through the Blue Ridge—I had just beheld the wonderous subterranean palaces in Augusta: every step, as I advanced up the rich and beautiful valley of Shenandoah, bounded on one side by the Blue Ridge, and on the other by the North Mountains, presented objects calculated to keep the sublime emotions in a constant state of excitement. Besides my expectations concerning the bridge, were too highly raised by Mr. Jefferson's splendid and fanciful description of it. When I saw it I felt disappointed. I walked to the edge and looked down without feeling terror. I went below and looked up, and was not astonished. It indeed possesses grandeur and sublimity; but to my mind, *Wier's Cave* is best worth the attention of the traveller. There every thing that the mind can conceive of the grand and beautiful is realized. The Bridge affords only two or three views—the Cave a thousand.

In my progress up the valley I was attracted to Madison's Cave by Mr. Jefferson's description of it, but had much difficulty in obtaining directions where to find it, other than those contained in the Notes. Maps of Virginia I could no where meet with, though I made diligent inquiry, except the old one of Fry and Jeffreys, which I saw at Fravel's in Woodstock; so that it was not until I had arrived within 20 miles of the Cave I could ascertain its place, and there I learned for the first time that another *Cave* had recently been discovered near it, and so far surpassing it in

extent and grandeur, that Madison's had ceased to be an object of curiosity.

I found the Caves to be in the N. E. corner of Augusta county, very near the Rockingham line, two miles from Port Republic, a little town at the confluence of the two branches of the Shenandoah,* a little out of the direct route from New-Market to Staunton, thirty miles from the former, and seventeen from the latter place, increasing the distance between them three or four miles, but more than compensating the traveller (putting other considerations out of the question) at this season of the year, by the superior quality of the road.—This place may be visited from Charlottville, on the other side of the Blue Ridge, 32 miles distant, by a turnpike road through Brown's gap. To Richmond is 120 miles. I expect you would prefer the route to Brown's gap, as Monticello would then be in your way.

The hill in which the caves are, presents a perpendicular front of 200 feet in height to the south branch of the Shenandoah, looking northeasterly towards the Blue Mountains, thsee miles distant beyond the river. Its front on the river is about half a mile, but spreading wider as it recedes—its height declines gradually back until it dissolves into the plain. Of Madison's Cave I shall say but little, Mr. Jefferson's description of it being ample. It derives its name from the father of the late Bishop Madison, who resided near it; and who, when alive, was equally famed for his hospitality, his practical wit, (which lay more in his heels and fingers than in his head) and his convivial disposition. It has been known 60 or 70 years, but is now little visited as a curiosity. The earth in it affords Salt-Petre in the proportion of from two to four lbs. to the bushel; 2000 weight was manufactured here during the last two years. The earth when brought out is, at the mouth of the Cave, put into a plank gutter which conducts it to the bank of the river at the bottom of the hill, where it is put into the tubs or vats mixed with wood ashes; water is passed through it, and this is evaporated to a salt by boiling. The lakes of water which are found at the extremity of the Cave have been navigated by a boat, and thoroughly explored since Mr. Jefferson wrote. They are 30 or 40 feet deep, and bounded on the furthest extremity by rocks so abrupt, that a footing can no where be had, limiting for the present further discoveries in that direction. I advised the proprietor to put fish into them, which he promised to do, so that visitants may probably in a few years add fishing to the entertainments afforded by the excursions.

Madison's Cave, as you know from Mr. Jefferson's description, has its entrance about two thirds of the way to the top of the hill, immediately over the river. The mouth of *Wier's Cave* is parallel to it in the same hill, two or three hundred yards further up the river. Madison's Cave penetrates 120 yards; Wier's 900. This last was discovered in February, 1806, by the man whose name it bears, and this I propose to give you some faint idea of by a description brief, and necessarily very imperfect. But to obviate its imperfections, and aid your comprehension, I herewith give you the outlines of its course and apartments, incorrect no doubt, but, bearing some resemblance to what it would represent, and the best I am able to offer. The letters in the plan will be referred to in the course of our route. The index points to the entrance: the arrows mark the descent in places where it is most considerable.

The Cave is solid limestone, sometimes ascending, but more commonly descending in its course, narrow and low at the entrance, but increasing in height as you advance, until it becomes 80 or 90 feet high. Water is constantly dropping from the arch and trickling down the sides, not in quantities sufficient to affect the lights or incommode the visitors.—This forms stalactites of every possible form and every variety of beauty. The colours are for the most part white, but sometimes red, and occasionally variegated. It is not every where that stone is formed by this percolation of the water. Sometimes it finds little basons formed to receive it, and again there are sinks through which it falls and disappears.

The entrance is closed by a door of two feet and a half or three feet square. You grope through a narrow passage until you reach the Anti-Chamber, (A) whose arch, 12 or 15 feet high, is supported by pillars in the centre. On the left is a recess difficult to traverse on account of the huge mishappen rocks which are every where thrown rudely about it. From the Anti-Chamber you enter a narrow passage, creep in one place and incline your body obliquely to the left between two sheets of rock in another. Descending some hewn steps and a wooden ladder, you come into Solomon's Temple (B)—on the left is a large fluted column called Solomon's Pillar, and on the sides of the apartment are curtains descending in wave-like folds from the ceiling to the floor. The room is 25 feet high. A recess on the left contains a fine basin of water, and is called the Bar Room.—Ascending a ladder you find yourself on a steep narrow rock, from which you look back and see the various beauties of the Temple to great advantage. By another ladder you descend into the Curtain Room, (C) which is profusely ornamented with a great variety of beautiful drapery. There is such elegance and regularity in these ornaments that, if seen in small detached parts, it would be difficult to persuade one that they were not works of art. The curtains usually descend from the arch to the floor on the sides of the Cave, and are from 5 to 6 feet wide, and from 2 inches to half a inch in thickness. They hang from six to twelve inches asunder, and are commonly white and transparent. As the drapery in this apartment is the most remarkable, though it is found in every part of the Cavern, it may be well now, once for all, to take a passing notice of two forms that most frequently occur in every part of the Cavern. The explorer will see the best examples of each in the Sofa and Gallery, presently to be mentioned. At the upper edge of the valance where the depending part commences, there is a cordon running ronnd each. —From this the curtain descends a foot or two, solid, but in the one indented by semicircular cavities about two inches in cord, parallel and exactly uniform—in the other, instead of cavities there is precisely as much projection, and the proportions in both are as regular and exact, as if they had been produced by the chissel of the artist.

The Tambourin or Music Room (D) is next. This abounds with stalactites similar to the curtains in the preceding rooms, but finer and more variously toned, and the room is better calculated for effect. These tones (produced by striking) are various and good, and were the notes ascertained, which each would produce, a skilful hand could draw music from them. You now ascend a natural and well formed staircase running across the passage with a row of banisters along it, of a proper height for the hand to rest on—and then descending a ladder into the Ball Room, (E) which is 100 feet long, and the arch 15 to 20 feet high. The floor is smooth and level, and the sides ornamented with curtains, colonnades, and various resemblances to household furniture. Betsy's Sofa is remarkable here for its elegance and resemblance to art. The floor has evidently been lowered in time. Some of the columns are ruptured and dissevered in the middle of the shaft, and do not meet by some inches. Others have fallen and lie in ruins.

The curious explorer now comes to the most straitened passage in the Cavern, (F) and which was for some time the boundary of the discoveries in it. The way, though enlarged beyond its original dimensions, is steep, narrow, and difficult. He must creep on all-fours, and on account of its descent must go backwards. He is covered with mud, fatigued with his posture and exertions, and it is well if his head and back escape a rude contact with the rough stones above him. At length he regains his feet—looks back upon the narrow aperture by which he entered, reflects that he is almost a quarter of a mile from the regions of upper air, carries his candle with more steady hand, and feels himself entombed. Knowing that our corpulent acquaintance Mrs. T———, had visited this Cavern, I asked my guide if she passed these straits. He assured me that she did, "that

* Pronounced with a full accent on the first and last syllables, "Shannondore."

she crept, and stumbled, and slid along like an otter, and got through without any sort of difficulty and what was more," he added, "no woman ever yet stopped half way; they always went to the extremity."

Descending some steps hewn out of the rock, called Jacob's Ladder, you enter the Vestibule, (G) the arch of which is about the same height as that of the Temple. On your left as you enter, a horizontal sheet of stone, a foot thick and 20 feet in diameter, projects from the side of the Cave about midway between the floor and the ceiling, called Mary's Gallery. This is a striking object from its rich ornaments. Connected with this Vestibule is the Saloon (H). Returning and entering a passage on the left, Washington's Hall, (I) the grandest part of the Cavern is open to your view. You stand at the entrance; the guides go forward and arrange lights at certain distances. The long level floor rings beneath their tread. You see them at a hundred paces distance, and hear their voices resounding from the arch that rises sublimely eighty feet over your head.—Every drop of water that falls rings in your ears. On your right is a row of marble statues. In the centre, before the entrance of Lady Washington's Drawing Room, is a statue of noble mein and fair proportions, in the habiliments of an ancient Roman, called Washington's. You gaze and listen in silent rapture. At length you are roused from the enchantments of the scene by being reminded by your guides, that you have still much to see. Lady Washington's Drawing Room, (K) is next visited; a spacious and handsome apartment. Just within the room on the right, is a large Bureau on which many names are inscribed. I conformed to the general custom by engraving the initial letters of one I happened then to think of. In this apartment a rock of immense magnitude has fallen from the arch ceiling above, and converted into a heap of ruins a number of massive columns that were standing near it. In Washington's Hall, a column two feet in diameter has fallen, probably from the settling of the floor, which certainly has a Cavern beneath it. The Diamond Room, (L) is next, and derives its name from the sparkling brilliancy of its walls. The Enchanted Room, (M) has a wild variety, which, by the help of a vivid imagination, may be transformed into a new creation. Here, in one place, an immense mass of rock hangs so loosely over you, so apparently without support, that it seems to threaten you with instant annihilation. Here is a basin containing a hogshead or two of pure water, which, after the fatigue experienced, is grateful and refreshing. Returning by the same passage through the Diamond Room, you come to the Wilderness, (N) rough and irregular below, on the sides and above. Either here or in the Enchanted Room, I do not remember which, there is a large column of 25 or 30 feet in diameter, called the Tower of Babel. The Garden of Eden, (O) is the last scene. This room is spacious, lofty, and its decorations are superb and various. A rock apparently floating over you, called Elijah's Mantle, a large white curtain, and a rock called the Salt Mountain, seen at a distance through a colonnade, are the most remarkable particulars that I noticed here.

I now returned and regained the mouth of the Cave, after having been within it two hours and three quarters. But the time was too short to enable one on a first visit to notice the Cave with the accuracy necessary to give a full or correct description of it. An English painter who was some weeks here, said that years were necessary to give any thing like a correct representation of it by the pencil.

The Saloon (H) cannot be very distant from Madison's Cave, and had time permitted, I should have attempted to discover a communication between them, by firing a musket in one Cave, while the report was listened for in the other. The mention of this reminds me of the remarkable effect which I am told the explosion of a pistol produces in some parts of Wier's Cave. The sound is astonishingly loud, and is prolonged and echoed back from the distant recesses; and after a considerable silence it is once and again returned, when you have supposed it exhausted. I had not the forethought to supply myself with the means of making this experiment.

The temperature of this Cave, I am told, is 55, and never varies.

A German of the name of Aymand, was once the proprietor of this Cave, and his name has sometimes been given to it. It is now the property of Mr. Bingham, who keeps a good house of entertainment near it; but the honor of the name is certainly due to the discoverer. Mr. Wier made the discovery by pursuing with a dog, game which took refuge here, and he prosecuted it with as much ardour, and at almost as much peril as Cook prosecuted his discoveries in the trackless ocean. The proprietor keeps a lock upon the door of the Cave, and charges 50 cents to each visitor, which produces him a considerable revenue.

Mr. Charles Lewis, who lives near Port Republic, accompanied me in my subterranean excursion, and contributed much to the gratification of it.

In following me, I fear you will share more of the fatigues than pleasures; but if I excite your curiosity sufficiently to induce you to make this place a visit, at some time when on your way to Washington, I shall have done you an essential service by enabling you to see and enjoy much in a little space, an important consideration in the economy of a life whose duration is contracted to a span.

I am, my dear sir, with every sentiment of respect and esteem, yours, as ever,

CALVIN JONES.

From the Albany Daily Advertiser.

UNPARALLELED MUNIFICENCE.

The honorable STEPHEN VAN RENSSELAER has engaged Prof. A. EATON, of Troy, to take a Geological and Agricultural survey of the Great Canal route from Albany to Buffalo, a distance of 380 miles. The survey is to include the breadth of ten miles. An accurate investigation of the rocks, soils, minerals and plants, is to be made on both sides of the canal. The method of culture adopted by the best practical farmers is to be sought out, and all the varieties of soil to be analyzed.

Similar surveys of the transition district of Rensselaer county, and the transition and secondary district of Albany county, having been taken under the patronage of Mr. Van Rensselaer; the proposed survey, across this secondary region, will furnish a practical view of all the varieties of formation, soil and culture in the state; except the primitive districts, which are very limited.

The result of this survey is to be published, with a geological map and tranverse sections. It will form a complete manuel for the travelling geologist and botanist, as well as for the practical agriculturist.

The survey is to be commenced in November. No more will be done this season, however, than to make a general outline of the geological formations, in order to prepare a sketch to be filled up hereafter. The survey will be resumed next April, and continued through the summer. It is not known how much time will be required for its completion. But from a comparison of former surveys, taken by Dr. Beck, and Mr. E. we have reason to believe it will be completed, so as to be published in a year from next January.

It is to be presumed that the farmers and landholders on the route will be prepared to give all the information required, in aid of the undertaking. Every unknown mineral should be collected; and every locality, where there are any signs of ores, coal, gypsum, &c. should be searched out, and ready for inspection. For surely, if Mr. Van Rensselaer will be at the expense of giving them an opportunity to learn the true state of their own resources, they will be both assiduous and hospitable, and furnish Mr. Eaton all the aid in their power.

President ADAMS has recently given in immediate possession to his native town, Quincy, nearly two hundred acres of land, containing in a part of it an inexhaustible quarry of stone for building houses; the whole proceeds to be appropriated to religious and literary purposes from generation to generation. He has also given to the town his whole library consisting of highly valued valuable books, in various languages. This has already come into possession of the town.

Portsmouth Journal.

LETTERS ON ENTOMOLOGY.

[By Kirby and Spence.]

LETTER IV.—Continued.

INJURIES CAUSED BY INSECTS.

DIRECT INJURIES.

You may now possibly think that I have nearly gone through the catalogue of our *personal* assailants of the insect tribes. If such, however, be your expectation, I fear you will be disappointed, since I have many more, and some tremendous ones, to enumerate: but as a small compensation for such a detail of evils and injuries to which our species is exposed from foes seemingly so insignificant, and of acts of rebellion of the vilest and most despised of our subjects against our boasted supremacy, the objects to which I shall next call your attention are not, like most of our apterous enemies, calculated to excite disgust and nausea when we see them or speak of them; nor do they usually steal upon us during the silent hours of repose, (though I must except here the gnat or mosquito,) but are many of them very beautiful, and boldly make their attack upon us in open day, when we are best able to defend ourselves. Borne on rapid wings, whenever they find us, they endeavour to lay us under contribution, and the tribute they exact is our blood. Wonderful and various are the weapons that should come to attack you with a tremendous apparatus of knives and lancets issuing from its mouth? Yet such are the instruments by means of which the fire-eyed and blood-thirsty horse-fly (*Tabanus*, L.) makes an incision in your flesh; and then forming a siphon of them, often carries off many drops of your blood.—The pain they inflict, when they open a vein, is usually very acute. A fly of this kind not only occasioned Mr. Sheppard considerable pain by its bite, but also produced swelling and blackness round one eye, and the flesh of his cheek and chin was so enlarged from it as to hang down. In this country, however, their attacks are not frequent enough to make them more than a minor "misery of human life;" but the burning (*brulot*) or sand-fly of America and the West-Indies, which seem to be the same insect, causes a much more intolerable anguish, which has been compared to what a red-hot needle or a spark of fire would occasion us to endure. Lambert, in his *Travels through Canada, &c.* says "They are so very small as to be hardly perceptible in their attacks; and your forehead will be streaming with blood before you are sensible of being amongst them." Yet we have one species (*Stomoxys calcitrans*, F.) alluded to in a former letter as so nearly resembling the common house-fly, which, though its oral instruments are to appearance not near so tremulous, is a much greater torment than the *Tabanus*. This little pest, I speak feelingly, incessantly interrupts our studies and comfort in showery weather, making us even stamp like the cattle by its attacks on our legs; and, if we drive it away ever so often, returning again and again to the charge. In Canada they are infinitely worse. "I have sat down to write," says Lambert, (who though he calls it the house fly is evidently speaking of the *Stomoxys*,) "and have been obliged to throw away my pen in consequence of their irritating bite, which has obliged me to raise my hand to my eyes, nose, mouth, and ears in constant succession. When I could no longer write, I began to read, and was always obliged to keep one hand constantly on the move towards my head. Sometimes in the course of a few minutes I would take half a dozen of my tormentors from my lips, between which I caught them just as they perched.

The swallow-fly (*Ornithomyia Hirundinis*, Latr. *Hippobosca*, L.) whose natural food is the bird after which it is named, has been known to make its repast on the human species. One found its way into a bed of the Rev. R. Sheppard, where it first for several nights, sorely annoyed a friend of his, and afterwards himself, without their suspecting the culprit. After a close search, however, it was discovered in the form of this fly, which forsaking the nest of the swallow, had by some chance taken its station between the sheets, and thus glutted itself with the blood of man. In travelling between Edam and Purmerend in north Holland, (July 21, 1815,) in an open vehicle, I was much teased by another bird-fly, (*Ornithomyia avicularia*, Latr.) (two individuals of which I caught,) alighting upon my head, and inserting its rostrum into my flesh. Mr. Sheppard remarks, as a reason for this dereliction of their appropriate food, that no sooner does life depart from the bird that these flies infest, than they immediately desert it and take flight, alighting upon the first living creature that they meet with; which if it be not a bird they soon quit, but, as it should seem from the above facts, not before they have made a trial how it will suit them as food.

But of all the insect-tormentors of man, none are so loudly and universally complained of as the species of the genus *Culex*, L. whether known by the name of gnats or mosquitos.—Pliny, after Aristotle, distinguishes well between *Hymenoptera* and *Diptera*, when he says the former have their sting in their tail, and the latter in their mouth; and that to the one this weapon is given as the instrument of vengeance, and to the other of avidity. But the instrument of avidity in the genus of which I am speaking, is even more terrible than that of vengeance in most insects that are armed with it: like the latter also, as appears from the consequent inflammation and tumour, it instils into the wound a poison, the principal use of which, however, is to render the blood more fluid and fitter for suction. This weapon, which is more complex than the sting of hymenopterous insects, consisting of five pieces besides the exterior sheath, some of which seem simply lancets, while others are barbed like the spicula of a bee's sting, is at once calculated for piercing the flesh and forming a siphon adapted to imbibe the blood. There are several species of this genus whose bite is severe, but none is to be compared to the common gnat (*Culex pipiens*, L.) if, as has been generally affirmed, it be synonymous with the mosquito, (though perhaps several species are confounded under both names;) and to this, the most insatiable of blood-suckers, I shall principally direct your attention.

In this country they are justly regarded as no trifling evil; for they follow us to all our haunts, intrude into our most secret retirements, assail us in the city and country, in our houses and in our fields, in the sun and in the shade: nay, they pursue us to our pillows, and either keep us awake by the ceaseless hum of their droning pipe, and their incessant endeavours to fix themselves upon our face, or some uncovered part of our body; or, if in spite of them, we fall asleep, awaken us by the acute pain which attends the insertion of their oral stings; attacking with most avidity the softer sex, and trying their temper by disfiguring their beauty. But although with us they are usually rather teasing than injurious; yet upon some occasions they have approached nearer to the character of a plague, and emulated with success the mosquitos of other climates. Thus, we are told that in the year 1736 they were so numerous, that vast columns of them were seen to rise in the air from Salisbury cathedral, which at a distance resembled columns of smoke, and occasioned many people to think that the cathedral was on fire. A similar occurrence, in like manner giving rise to an alarm of the church being on fire, took place in July, 1812, at Sagan, in Silesia. In the following year at Norwich, in May, at about six o'clock in the evening, the inhabitants of that city were alarmed by the appearance of smoke issuing from the upper window of the spire of the cathedral, for which at the time no satisfactory account could be given, but which was most probably produced by the same cause. And in the year 1766, in the month of August, they appeared in such incredible numbers at Oxford as to resemble a black cloud, darkening the air and almost intercepting the beams of the sun. One day, a little before sunset, six columns of them were observed to ascend from the boughs of an apple-tree, some in a perpendicular and others in an oblique direction, to the height of fifty or sixty feet. Their bite was so envenomed, that it was attended by violent and alarming inflammation; and one when killed usually contained as much blood as would cover three or four square inches of wall. Our great poet Spenser seems to have witnessed a similar ap-

pearance of them, which furnished him with the following beautiful simile :

As when a swarme of gnats at eventide
Out of the fennes of Allan do arise,
Their murmuring small trumpets sownden wide,
Whiles in the air their clustring army flies,
That as a cloud doth seem to dim the skies ;
Ne man nor beast may rest or take repast
For their sharp wounds and noyous injuries,
Till the fierce northern wind with blustering blast [cast.
Doth blow them quite away, and in the ocean

(*To be continued.*)

FROM THE EDINBURGH FARMER'S MAGAZINE FOR AUGUST 1821.

[*Received at the office of the Plough Boy.*]

On the Value of, and Different Modes of preparing, Burnt Earth for Manure : By EDWARD BURROUGHS, Esq.

This substance being but little known as a manure, and being highly valued on most soils, merits the particlar attention of the cultivator : it has also this particular recommendation, that there are but few farms on which it cannot be prepared, and can be obtained at a cheaper rate than most other manures.

By the term 'burned earth,' is to be understood, any species of soil that is capable of being torrefied or dried up by excessive heat, preserving at the same time, its original staple after that operation. Clays of all sorts, and strong loams, will answer well for this purpose ; but moors and sandy soils, being deficient in tenacity, will not torrefy to advantage, as I shall in its proper place, explain. It is necessary to observe, that this mode of preparing earth as a manure, is upon a principle very different from that of reducing it to ashes ; and though the effect produced on the land on which it is applied may be apparently the same, yet the torrefied substance is by far a more permanent manure.

The chemical difference in their preparation is this :—In reducing the soil to ashes, much of its fertilizing properties are dissipated, and its vegetable matter destroyed ; bnt, when torrefied, those properties are preserved, and its vegetable matter only reduced to a state more valuable as the food of plants.—There are two sorts of burned earth ; 1*st*, That which is produced from the subsoil ; and, 2*dly*, That which is produced from the surface, or upper soil. I shall treat of them severally, in order to show how they are to be appropriately applied, and to point out the best mode of preparing them under different circumstances.

Frst.—Subsoil calculated for this purpose may be said to be of two kinds, viz. adhesive clay, and calcareous earth : the former seldom possesses any fertilizing properties in its natural state ; but the latter is generally a valuable substance, even in this state. As alteratives to the soil, they may be good applications if appropriately applied, and may produce fertility accordingly ; but, by putting them through a process of torrefaction, converted into valuable manures. Hence it would appear, that the most fertile subsoil would be the most advantageous to torrefy, and this, I have no doubt, is the case ; but then, as the process will make any description of soil a valuable manure, the only object is, to procure that which will answer best for this purpose.

The most simple and the cheapest method of preparing this manure, is, to excavate a place in the pit out of which the subsoil is to be raised for this purpose, and in shis place to build the kiln. The subsoil will then be convenient to throw on the kiln ; and the culm for assisting in the burning of it may also be laid down convenient, as it is wanted. The kiln is built in the following manner, viz.

An arch about four or five feet long, three wide, and two high, is made with well burned brick ; the front of which is close like an oven, and the inside fitted to receive a strong fire of coals. On the top of the arch six or eight holes are left, the size of a small brick, to admit the heat passing out, which is to communicate to the earth laid on. When the fire is sufficiently strong, the door of the kiln is to be well stopped, and the earth thrown on in some degree pulverized, about 6 or 8 inches round it to which the heat might communicate. In this manner it is to be dressed alternately with culm and earth, which are to be laid on according to the heat of the fire, which is on no account to be permitted to burn too strong.

After the kiln is once well lighted, it will burn several hundred bushels of earth without auy additional fire inside ; and the same kiln will answer for a length of time to renew the process when it may be necessary.

The substance which I saw put through this process on the lands of Doveridge, was a yellow clay of strong nature, and liable to become calcined by excessive heat, which Lord Waterpark found to be the case on his first commencing his experiments. However, on reducing the strength of the fire in the kiln, and not giving so heavy a dressing of culm between the layers of clay, the heat was just sufficient to produce torrefaction ; and when the clay was carted out, it was in a mellow and pulverized state.

This was applied, in the month of April, on a field that had produced barley the year before, and the soil of which was nearly similar to the subsoil applied on it. The result was, that a most excellent crop of barley was obtained by this dressing, even better than on another part of the same field which had been limed in a sufficient quantity, and treated in the same manner.

Subsoil may also be torrefied in kilns made of sods, or mud and straw, as follows ; viz.—On a headland, or waste piece of land, off which sods can be sufficiently old to build a wall, erect four parallel to each other, and forming a square in eight feet in the clear ; let these be well joined at the angles by crossing the sods, and raised about four high on the commencement, and twenty inches thick.—Through the centre of the four walls, and on a level with the surface, cut flues, so that they will all meet in the centre of the kiln, about five or six inches deep, a four wide, which are to be covered by sods on the top, leaving intervals between them of less than an inch.—These flues are apt to be kept free of clay or rubbish, and the mouths well open to the air.

In the centre of the kiln place brushwood, turf, or other combustible matter ; also, some small blocks of wood to strengthen the fire ; and, when all is kindled, throw on some culm, and then clay, and so on, as you find the fire sufficiently strong to take dressing ; always observing to keep the heat of the kiln as even and as moderate as possible, just of sufficient strength to expel the moisture from the layers of clay as they are thrown on. Much care should, however, be taken not to cover the fire too soon after being lighted, which would be likely to extinguish it totally.

The reason of raising the walls on the commencement only four feet, is, that the firing may be more readily placed in it ; but, during the burning, they should be always kept eighteen inches higher than the centre of the kiln in order that the wind should not have power on the surface of the fire. As soon as the kiln is strongly kindled, two flues should be stopped, observing always to keep those open which face as much as possible the windward point : should the kiln burn too strong, one of those will be sufficient to leave open. It will often happen that the kilns will burn to a height of eight or nine feet ; but it is no advantage to let them burn higher than seven feet, as the inconvenience of dressing when so elevated, adds too much to the expense.

When kilns are well managed, one of the size I have described would be burned in about six weeks, at the eed of which time the walls would be so torrefied as to become of equal value, as manure, with the interior of the kiln ; however, it cannot be expected that they will be in a state sufficiently pulverised to put out at the same time for a crop : it would therefore, be as adviseable to have them broken down as soon as the kiln has burned out, and to mix and blend them all together. About two months after this preparation, it will be in good order to put out for a green crop ; but, for a corn crop, it should be in the highest state of pulverization. Calcareous earth is considered to be by some scientific farmers, the best substance for burning, on the principle that the calcareous matter which it contains is reduced to lime in the process of torrefaction ; therefore, lime being, in their opinion, the best burned substance which can be produced, the manure the most replete with it must be the most valuable. Now,

there are two matters to be ascertained before this theory can be admitted :—1st, Is lime a greater fertilizer of soils in general than torrefied earth? and 2d, Whether, in the process of burning any subsoil which has a large portion of calcareous earth, the effect which should be produced by torrefaction would be counteracted if there were sufficient fire applied to reduce the calcareous particles to lime?

First.—Lime being established as a valuable application on many soils, it would be no easy matter to persuade those who have not tried burned earth as a substitute, that it possesses more fertilizing properties; but then experience, by which all must be governed, has convinced me, that this latter substance is by far more valuable, on many soils, than lime. I have tried it on strong clays, on light soils, and on moory soils, on all of which it produced good crops of potatoes and turnips, and afterwards corn; and, in one instance in particular, where lime had been applied ineffectually, a dressing of burned clay made the land yield most abundantly. Lime only stimulates and pulverizes the soil; whereas burned earth not only possesses those properties, but contains in itself enriching and vegetative qualities. The following experiments will serve to corroborate these assertions.

On a wheat stubble (the soil a light sandy loam) which I had gravelled as a preparation for that crop, I sowed barley in the following spring, the land being winter fallowed, and in good tilth; part of the field I dressed with burned clay, and part with lime and clay in compost. The crop was sown, and treated on both parts equally alike; but the portion of the field on which the burned earth was applied, produced by far the best quality of grain, and also a greater quantity to the acre.

On a moory field, which I prepared for a potatoe crop, I applied a heavy dressing of strong clay and lime compost, (not considering the land sufficiently strong to take *pure* lime with advantage;) part of the field remained undressed until May, for want of stuff to lay on, and, it being late in the season, my farmyard dung was all consumed. I, therefore, had no alternative but to prepare some burned earth, by digging the headlands, which was laid on the remainder of the field about the 20th of May, and potatoes planted. The result was most encouraging; the crop on this part of the field being better than where the lime and clay had been applied.

I shall now proceed to show the mode of preparing the surface, or upper soil, so as to produce valuable manure. Headlands round tillage fields are the principal source from which to obtain earth for this purpose; and let its nature be what it may, provided it adheres when dug with the spade, it can be torrefied in a kiln made of sods, in the manner I have already described; but, then, the principle on which these sods are burned being different from that of preparing subsoil for this purpose, it is necessary to state the process minutely.

If the kilns be made of sods, they may be immediately lighted on being finished; but if of mud and straw, they should be permitted to dry before the fire is applied. Any labouring man, in the habit of building huts with sods or otherwise, can prepare a kiln without difficulty; and as it is not necessary that neatness should be observed, five or six men could erect one in a day. The walls, however, when made of sods, should be beat close with the spade, in order to prevent them from drawing air, by which the burning of the kiln would be much retarded. The successful burning of these kilns chiefly depends on the judicious manner in which the kindling is placed in them, and the sods laid on the fire; for they are not to be dressed with any combustible matter alternately, as is the case when the subsoil is burning. The entire operation is performed by the heat from the fire in the body of the kiln passing through the interstices of the sods, and which are formed by laying them loosely and openly on the top of each other. It is, therefore, advisable, that the sods used for the purpose of dressing the kiln, should be cut as square and lumpy as possible, and of a size that they can be readily handled, so as to lay them on the kiln carefully:—loose earth should not be thrown in on any account.

The best materials for lighting the kilns are, turf and coarse timber; but where those cannot be procured, any kind of brushwood and coals may be substituted with effect; but the fire should be made stronger in those kilns than when subsoil is to be burned. It will be necessary to lay on the sods very expeditiously, on the fire being properly kindled; otherwise the combustible materials would be exhausted before a sufficient quantity of the sods was heated; and on this chiefly depends the successful burning of the kiln. For this reason, it would be necessary to light them early in the day, that they may be well covered before sun-set. In dressing them, the sods should be laid close to the walls, and the centre kept a little elevated: and those points where the fire breaks out strongest should be heavily covered, as the kiln would be exhausted by permitting the smoke to pass too rapidly away.

It is evident that, after the kindling is burned out, nothing remains but its effect, which is simply that of heating the sods immediately near it, and retaining a great body of heat in a confined space. By the heat being thus smothered, no reduction of the innate properties of the soil can take place, nor any of its gasses be dissipated; neither is it much reduced in quantity; it is merely dried up, or torrefied, by the process, and made more capable of imbibing, when blended with the natural soil, those properties of the atmosphere conducive to vegetation.

From the same.

ON THE CULTURE AND VALUE OF RAPE.

Sir, *Vale of Nith, 18th July, 1821.*

I have followed the practice of sowing rape-seed now for 17 years; and beg leave, therefore, to offer the following remarks, in answer to 'Queries regarding the Value and Culture of Rape,' in your last Number. Immediately after having concluded sowing my turnips, or about the beginning of July, I commence sowing rape upon my fallow-grounds, where I intend afterwards to sow wheat; generally sowing from 6 to 8 lbs. of seed per acre, according as the ground is in heart, (without any dung, having made use of most of that article for my turnips;) but usually applying about 30 measures of lime per acre, which invariably produces me a very excellent crop. About the first week of September, I put my stock of sheep upon it to feed fat, which they always do, in about six weeks, if put on in moderate condition; and this enables me to get in my wheat in good time. During my whole experience, the land thus managed has produced me a crop of wheat superior to that after potatoes. By a moderate calculation of two pounds Sterling per acre, and by allowing the ground, after eating off, nearly half the dung given to the potato-ground, the succeeding crops are always superior to what they are by any other management, either by green crop or fallow; my farm, in general, being a light soil, upon a gravelly bottom. Rape consumed the upon ground at so early a season, when the plants are so full of their oily juices, cannot fail to be one of the first manures, perhaps, which can be applied to ground. Cattle thrive equally well as sheep upon it; and it is astonishing how fine they get in their coats upon rape. Rape, from trials I have seen others make, does not stand the winter so well as turnip, as the leaves fall very much down by the frost; consequently, I think it cannot give above half the nourishment that it yields when eaten above mentioned. At that time, I can aver, it will feed more per acre than the generality of turnips will, and leave the ground in as clean a state, richly prepared for sowing barley and grass-seeds upon, when not inclined to sow wheat. Rape is also well adapted for moorish or mossy soils, when first broken up, where it is often very luxuriant; and when eaten down in the beginning of winter, and allowed to grow the next season, and run to seed (no good management), will, I believe, produce from 20 to 30 Winchester bushels per acre.

I have all along sown my rape broadcast; and although many annual weeds will naturally grow up therein, yet I always observed that, in a few days after the sheep were first put in, the annuals completely disappeared, serving, no doubt, as a variety of food; and they never again made their appearance in the succeeding crops. But I am well aware

that sowing it in drills would have much more the appearance of good farming, as it could then be more conveniently cleared of all annual weeds. I am, &c. J. G.

THE PLOUGH BOY.

ALBANY : TUESDAY, SEPTEMBER 10, 1822.

The Editor is still indisposed, and too feeble to write a Summary for this day's paper.

COMMUNICATION.

Mr. Southwick,

I was not a little surprised to notice in your last *number*, a communication under date of January 1822, from James Carver, V. S.—As though the Plough Boy were still in regular correspondence with one, who perished in the Albion Packet!—Three months or more have now elapsed since the wreck of that ill-fated vessel; and could the unhappy author of the communication but look back, from the shore, where his much suffering spirit hath landed, it would provoke from him a smile, even in death, to be told, that his essay hath just exhibited itself, in the columns of the Plough Boy.*

I make no complaint, for it is a matter, which as little concerns me as any one in the community; but as I pitied that unfortunate man, in common with yourself, I have thought proper to address you a few lines, by way of informing you of his melancholy fate.

It was my fortune to become acquainted with Mr. Carver sometime in the autumn of the last year, and as my sympathies were awakened in his favour, I did not suffer my friendship to be wholly useless to him. He described to me the fortunes he had followed, and the climes he had visited,—always the victim of care and experiment. He had served in the British army in India, and had amassed considerable information touching his profession in that country. Having fixed himself at Philadelphia sometime about the year 1814, he was encouraged, by several respectable people—particularly by members of the society of *Friends*, to make a voyage to England, in order to perfect his knowledge of farriery at the London Veterinary College. Accordingly he revisited his native land and there obtained a character for industry and intelligence, as well as a *diploma*, from Professors Coleman and Blaire. Returning to America, he found but little encouragement in Pennsylvania and the Carolinas, where he successively established himself, and was thence induced to make trial at New-York, but all in vain; and the poor man and his family were reduced to the extremest indigence and want. He then made efforts to get back to India, where he had passed his youth; but finding this impossible *here*, he took passage in the Albion for Liverpool, hoping through the instrumentality of friends in England to accomplish his desired but distant object. The vessel sailed—the ocean was traversed and the coast of Ireland was made!—Alas, that it should have been made! The beacon, which the ship-boy descried at a distance o'er the wave, proved to be but the harbinger of destruction!—I shall not (for I cannot) describe the event—it is but too well known already; and the unhappy sufferer concerning whom I am writing—found his last enemy more inexorable than the world!—I doubt not that he met death with firmness, as he had endured life with patience. There was indeed but little for him to hope for, and less to enjoy; and worn down, as he was, with many years of toil and tribulation, and the vicissitudes of life, he made a last effort to obtain what fortune had constantly denied him, and finding that effort arrested, it is to be supposed, that "Constans & libens fatum excepit,"—while his earthly cares and sufferings perished with him in the waves!

D. Y. L.

New-York, Sept. 3d, 1822.

* The author must have overlooked the short article, in our editorial department, accounting for the manner in which Dr. Carver's communication had been delayed, and referring at the same time, to his untimely death by ship-wreck.—*Editor.*

From the Providence Journal.

To those who make, and those who love good Cider.

A few years ago, I was dining with a friend, who knew my fondness for cider with my food. He remarked "my friend I have no cider to offer you. Our apples have been principally cut off by frost and insects, for several years past; but I can give you some cider wine." I took some of it, and diluted it with water, sufficient as I calculated, to reduce it to the strength of late made cider. When I drank of it, to my surprise, I found I had a glass of very excellent cider, with only the taste of a little apple brandy in it. The discovery of this fact suggested to my mind the following conclusion:—That farmers in a plentiful year of apples, may, with a little care, lay up a supply of good cider, against a year of scarcity. This may be done within a small compass, in the following manner:—Take your first made cider, which is fit only for the still, and convert it into brandy; put nine gallons of this brandy into a new barrel; then fill the barrel with late made cider, well strained, and bung it tight. This gives you the strength of near four barrels of cider, in one. The strength given to it by the brandy, will preserve its sweetness entire, for many years. That which I drank was ten or twelve years old; and it was not impaired by age. When it is used, it only requires a sufficient quantity of water mixed with it, to render it excellent cider. The barrel should be new, and clean. To guard against the rotting which is caused by damp cellars, they should be iron bound, and well painted. In this manner any farmer, who has the fruit, may put up, in six barrels, the essence of twenty barrels of good cider, and keep it until a time of need. It will *fine* itself; and will grow better with an increase of age. Besides if it is not wanted as cider, it it a very pleasant cordial, when *undiluted*; and with the addition of a bushel of wild grapes, bruised, and put into each barrel, it imbibes the peculiar flavor of the grape, and becomes a very pleasant wine.

As there is an unusual quantity of apples this year, I have thought this communication might be useful to agriculturists. Now is the time for grinding up the early windfalls; and the cider, which these produce, if distilled, will furnish the brandy necessary for making the cider wine. And I can assure you, my friends, prepared in this way, it is much pleasanter, and less injurious to health and morals, than when drank, in the usual manner, mixed with water.

Those farmers who are fond of good cider with their food, and who have felt the want of it, in consequence of a scarcity of apples, will, I trust, feel the importance of attending to this subject, now, when they are blessed with an abundance of fruit. And another season, when their neighbours are destitute, the possession of a plenty of excellent cider in their cellars, will more fully realize to them the value of this communication, if they will make the experiment. A. B.

—

A correspondent states that the medical qualities of pulverized charcoal, are daily developing themselves. In addition to its value in *bilious* disorders, two ounces of the Charcoal boiled in a pint of fresh milk, may be taken in doses of a wine glass full, by adults, every two hours, in the most obstinate *dysentery*, until relief is imparted, which has not failed to be the effect in almost every instance. It is harmless and the experiment may be safely tried. Charcoal made from maple wood is the purest that can be readily obtained.—*Baltimore Chronicle.*

POETRY.

FOR THE PLOUGH BOY.

Selected from the Gentleman's Magazine, for September, 1748—By A. S.

AUTUMN—*An Ode.*

Alas! with swift and silent pace,
Impatient time rolls on the year;
The seasons change, and nature's face,
Now sweetly smiles, now proves severe.

'Twas spring, 'twas summer, all was gay,
Now autumn bends a cloudy brow,
The flow'rs of spring are swept away,
And summer fruits desert the bough.

The verdant leaves that play'd on high,
And wanton'd in the western breeze,
Now trod in dust neglected lie,
And Boreas strips the bending trees.

The fields that wav'd with golden grain,
As russet heaths are wild and bare,
Not moist with dew, but drench'd in rain,
Nor health nor pleasure wanders there.

No more, while thro' the midnight shade,
Beneath the moon's pale orb I stray,
Soft pleasing wars my heart invade,
As *Progne* pours the melting lay.

From the capricious clime she soars,
Oh! would some god but wings supply!
To where each morn the spring restores,
Companion of her flight, I'd fly.

Vain wish! my fate compels to bear
The downward season's iron reign,
Compels to breathe polluted air,
And shiver on a blasted plain.

What bliss to life can Autumn yield,
If glooms and show'rs and storms prevail,
And Ceres flies the naked field,
And flow'rs and fruits and *Phebus* fail.

Oh! what remains, what lingers yet,
To cheer me in the dark'ning hour?
The grape remains! the friend of wit,
In love and mirth of mighty pow'r.

Haste, press the clusters, fill the bowl,—
Apollo! shoot thy parting ray;
This gives the sunshine of the soul,
This god of health and verse and day.

Still, still, the jocund strain shall flow,
The pulse with vig'rous rapture beat;
My *Stella* with new charms shall glow,
And ev'ry bliss in wine shall meet.

From the (London) Farmers' Journal.

[Received at the office of the Plough Boy.]

ON BREAKING UP OLD SWARD, &c.

SIR, *Yorkshire, April 11th*, 1822.

As no one appears to have favoured *J. S's.* request of the 1st inst. I have (though very unequal to the task) presumed to give my opinion on the subject of the cultivation of old sward, and the best method of restoring worn out tillage land, viz. pare and burn old sward, (as I do not believe there is much waste in the process, except moist by evaporation) even such as *J. S.* represents, and not neglecting to reduce the ant hills, by having very thick sods pared from them and consumed in the general burning: provided the ant hills be not sufficiently reduced by paring, dig and throw them upon the fire heaps, if consumed all the better, if not spread them with the ashes. As he states the sward to have a tender top, not amiss to plough three times, the second time across, and pulverize well; sow with turnips, consume them upon the same land; and if *J. S.* be proprietor, or have confidence in his landlord, (as all tenant farmers ought to have) repeat the sowing and consuming of turnips a second time, as there is a probability of having good crops without further expense of manure; after turnips, sow oats, next maslin, after which prepare well for turnips, and give it a good dressing with his procurable dung (and never mind the fossil manures, until he has proved them by experience;) may then be in good state to proceed in the four-course system. And to restore his old tillage land of the same sort by manure, intermixed with balks of old sward, pare and burn the old sward balks, clean the old arable well, dress with an extra quantity of good dung, sow with turnips, consume them on the same land, and proceed in the four-course system. To restore old tillage land of retentive quality, fallow complete and well, and heave it into suitable ridges in November; and provided there be frost in the winter sufficient to bear carriages, apply the dung then, if not apply it immediately before sowing the grain, and harrow both in together with light harrows, rank, and short in teeth, the first time, in order to slide the dung and seed more kindly into the seams; after the first harrowing use heavier harrows, and if the dung be short, I would recommend him to give it (as well as the pared and burned, if not ploughed more than once,) a reverse double slantwise; and in order to do so correctly, care should be taken to begin at the right corners. Suppose the ridges are from south to north, the south-west, or north-east corners of the field are the proper ones, and provided the harrows be taken correctly, the first bull will be its length in the furrow when crossing over, at each end turn to the left, and take the inside half of the last breadth back, which will give the surface a reverse double, and where the corners of the harrows go one time, the centre of them goes the next, which I believe to be the most true way of harrowing after broadcast sowing, and the inspector will find there is not a tooth unemployed: after the above harrowing, I would sow seeds proper for sheep, and three or four years grazing, after which roll across, harrow with the light rank-toothed harrows, and water-furrow with the double mould-board plough in October: after the first summer grazing, dung well, and graze other two or three summers, and proceed in the four-course system. The greatest part of my arable land is of the last-mentioned sort, all of which I treated as above stated, and I truly believe no other method would have restored it so much: it is now thirty years since, and with sheep feeding every four years, I find it retains, if not increases its freshness and fertility.

Your obedient Servant, J. H.

PERCY ANECDOTES.

Princess Amelia, Daughter of George II.

This princess, the last surviving child of George II. died at an advanced age in 1787. She was of a masculine turn of mind, and evinced this strikingly enough in her dress and manners. She generally wore a riding habit in the German fashion, with a round hat, and delighted very much in attending her stables, particularly when any of the horses were out of order. Her practice was to rise very early; and she always drank her coffee or chocolate in a standing posture, walking all the while about the room. She took snuff immoderately, and was very fond of cards. Being at the public rooms one evening at Bath, a general officer seeing her box stand upon the table, imprudently ventured to take a pinch from it; on her royal highness observing this, she called to her servant, and ordered him to throw the contents of the box in the fire.

☞ COMMUNICATIONS and SUBSCRIPTIONS for this paper, received at the PRINTING-OFFICE, No. 87, South-Pearl-Street. All letters from abroad, directed to the EDITOR, Albany, will be duly attended to.—Each volume comprises twelve months, or fifty-two numbers—the numbers are issued weekly on Tuesdays, and the volume commences the first Tuesday in June.

TERMS.—THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.